

WHAT IS CLAIMED IS:

1. A method of optimizing access network utilization, the access network including a plurality of integrated access devices coupled to a segment and reassembly device each having a plurality of channels, X, comprising:

5 providing a plurality of subscriber lines,  $\Sigma m_i$ , coupled to the integrated access devices;

providing a plurality of integrated access device lines,  $\Sigma n_i$ , between the integrated access devices and the segment and reassembly device;

10 multiplexing the plurality of subscriber lines by the integrated access device onto the plurality of integrated access device lines, such that  $\Sigma m_i > \Sigma n_i = X$ ; and

providing a reorder tone to any subscriber whose call is blocked.

15 2. The method, as set forth in claim 1, wherein providing the reorder tone at the integrated access device to the blocked subscriber.

3. The method, as set forth in claim 1, further comprising multiplexing the plurality of integrated access device lines onto the plurality of channels X, such that  $\Sigma m_i > \Sigma n_i > X$ .

20 4. The method, as set forth in claim 3, further comprising providing the reorder tone at the segment and reassembly device to any blocked subscriber.

5. A method of optimizing access network utilization, the access network including a plurality of integrated access devices coupled to a segment and reassembly device each having a plurality of channels,  $X$ , comprising:

providing a plurality of subscriber lines,  $\Sigma m_i$ , coupled to the integrated access devices;

providing a plurality of integrated access device lines,  $\Sigma n_i$ , between the integrated access devices and the segment and reassembly device;

concentrating the plurality of integrated access device lines onto the plurality of channels, such that  $\Sigma m_i = \Sigma n_i > X$ ; and

providing a reorder tone to any subscriber whose call is blocked.

6. The method, as set forth in claim 5, wherein providing the reorder tone at the segment and reassembly device to the blocked subscriber.

7. The method, as set forth in claim 5, further comprising multiplexing the plurality of subscriber lines onto the plurality of integrated access device lines, such that  $\Sigma m_i > \Sigma n_i > X$ .

8. The method, as set forth in claim 7, further comprising providing the reorder tone at the integrated access device to any blocked subscriber.

9. A method of optimizing access network utilization, the access network including a plurality of access devices coupled to a VoDSL device each having a plurality of channels, X, comprising:

providing a plurality of subscriber lines,  $\Sigma m_i$ , coupled to the access devices;

5 providing a plurality of access lines,  $\Sigma n_i$ , between the access devices and the VoDSL device;

multiplexing the plurality of access lines onto the plurality of channels X, such that  $\Sigma m_i = \Sigma n_i > X$ ; and

providing a reorder tone to any subscriber whose call is blocked.

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10. The method, as set forth in claim 9, wherein providing the reorder tone at a switch in which the VoDSL devices reside to the blocked subscriber.

11. The method, as set forth in claim 9, further comprising multiplexing the plurality of subscriber lines onto the plurality of access lines by the access device, such that  $\Sigma m_i > \Sigma n_i > X$ .

12. The method, as set forth in claim 9, further comprising providing the reorder tone at the access devices to subscribers blocked at the integrated access device.

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13. A method of optimizing access network utilization, the access network including a plurality of integrated access devices coupled to an ATM adaptation layer type 2 (AAL2) device each having a plurality of channels,  $X$ , comprising:

providing a plurality of subscriber lines,  $\Sigma m_i$ , coupled to the integrated access device;

providing a plurality of integrated access device lines,  $\Sigma n_i$ , between the integrated access devices and the AAL2 device;

multiplexing the plurality of integrated access device lines onto the plurality of channels, such that  $\Sigma m_i = \Sigma n_i > X$ ; and

providing a reorder tone to any subscriber whose call is blocked.

14. The method, as set forth in claim 13, further comprising generating and providing the reorder tone at the AAL2 device to any blocked subscriber.

15. The method, as set forth in claim 13, further comprising multiplexing the plurality of subscriber lines onto the plurality of integrated access device lines by the integrated access device, such that  $\Sigma m_i > \Sigma n_i > X$ .

16. The method, as set forth in claim 15, further comprising providing the reorder tone at the integrated access devices to subscribers blocked at the integrated access device.